

Work Order ID 58933

Thursday, May 20, 2010 9:06:49 AM



Page 1

Item ID: D205-596-105

Accept



Setup Start



Revision ID:

Item Name: Crosstube Fwd Extended

Stop



Start Date: 5/20/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 6/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

PL

Date:

10-5-20

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D205-596

Rev B

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-594 bluefile & type labels per PPP D205-596-105 CHG002

8/10/66/04

8/10/66/04

110

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend as per Dwg D2889 using CNC bender program

(IX) MB 10-05-25

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

8/10/66/04

FD

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

~~140~~ ~~150~~ ~~140~~
~~150~~

Crosstubes

Crosstubes

Crosstubes

Memo

mark cut line at 32.600"
1-Cut as per Dwg D205-596-105
2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.

0.00

0.00

MB 10-05-27

AWM 10-5-28

~~140~~ ~~150~~ ~~150~~
~~150~~

QC

Quality Control

QC15- Crosstube Dimensional Check

Memo

0.00

0.00

~~10/05/27~~
8 10/05/37

~~10~~

10

160



HandFXtube

Hand Finishing Crosstubes

Crosstubes Chemical Conversion

Memo

0.00

0.00

1 — AWM
10-5-37

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170 SprayPaint Spray Painting	SprayPaint Memo 1-Prime inside and outside with Immron per QSI 005 4.2	0.00 0.00				<u>ml</u>	<u>10</u>	<u>06</u>	<u>01</u> ①
180 QC Quality Control	QC14- Inspect Spray Paint Memo	0.00 0.00				<u>BT</u>	<u>10</u>	<u>06</u>	<u>02</u> ①
190 Crosstubes Crosstubes	Crosstubes Memo 1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe 2- Apply magnobond 6398 as per dwg D205-596-105 Magnobond 6398 Batch: <u>114021</u> EXP: <u>01/2011</u> 3- Inst <u>Torque: ml 10.06.03</u> ①	0.00 0.00				<u>ml</u>	<u>10</u>	<u>06</u>	<u>02</u> ①

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Work Order ID 58933

Thursday, May 20, 2010 9:06:49 AM



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Start Date: 5/20/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 6/7/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00							
Quality Control									
210	Packaging	0.00							
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D205-596-105								
	Location: _____								
	PPP Rev: <u>12</u>								
220	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo	0.00							
Quality Control									

S1066103

①

6/14/07 ①

10/06/07

MR
10-6-7

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Dart Aerospace Ltd

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

Thursday, May 20, 2010 9:06:53 AM

Page 2

Work Order ID: 58933



Parent Item: D205-596-105



Parent Item Name: Crosstube Fwd Extended

Start Date: 5/20/2010

Required Date: 6/7/2010

Comments: IPP Rev:D 05.03.21 Added bending procedure KJ/JLM

Start Qty: 1.00

Required Qty: 1.00

IPP Rev:E 08-01-10 ECN 1075 DD

IPP Rev F 08.04.28 Added bending & mat'l EC verified by: DD

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Qty per Kit	Qty	Date	Status
D3595-063-450		Manufactured	No			190	Each	58.5790	4			
RUBBER CUSHION												

Location

Loc Qty

Loc Code

LG

58.57897368

53775

30.5789737

58161

28

M 10.06.02

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

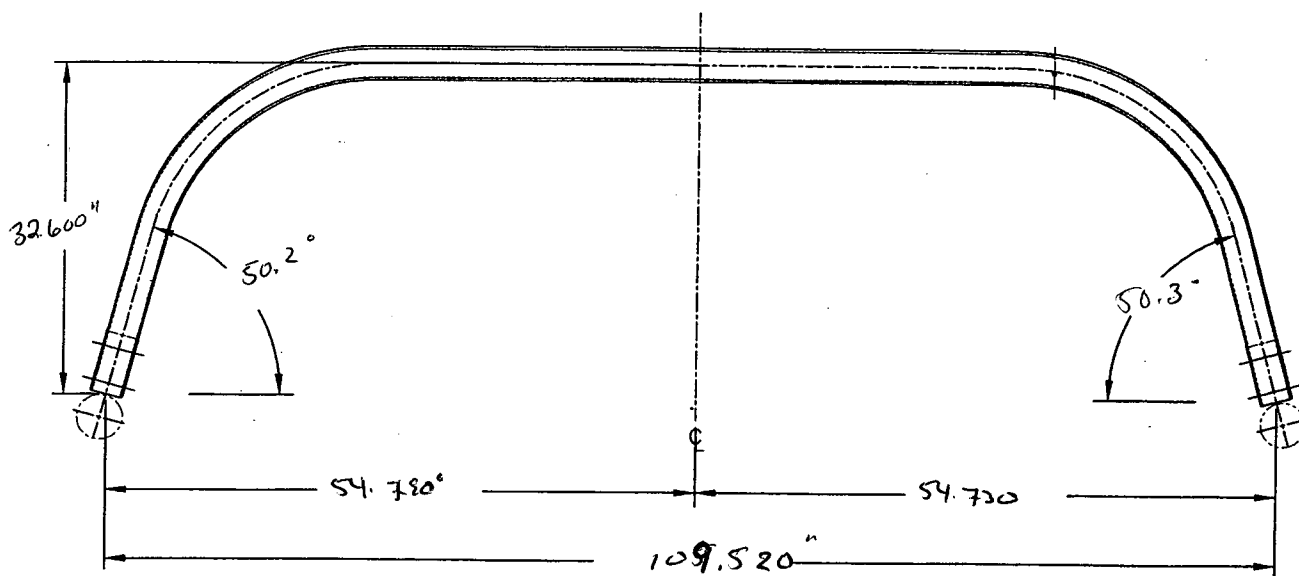
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DART AEROSPACE LTD		Work Order:	58933
Description: Crosstube High-High Fwd		Part Number:	D205-596-105
Inspection Dwg: D205-596-105 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	32.4	32.6
1/2 Span	54.6	54.8
Angle	49	52
Total Span	109.2	109.6



Comments
mark cut line @ 32.600"

QC15 Inspection	8
Date	12/15/27

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

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PARTS LIST:

Qty	Part Number	Description
X	D205-596-105	CROSSTUBE ASSEMBLY, HI-HI FWD
1	D6005-180	CROSSTUBE
2	D2893-1	SUPPORT
4	D3595-063-450	RUBBER CUSHION
4	MS21920-25	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6005-180
FINISHED LENGTH = 134.40 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH
VIBRATING STYLUS
- 7) WEIGHT: 40 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-25 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE D2893-1
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE
CROSSTUBE SUPPORT.
**NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-25 CLAMPS WITH LONGER (MS21920-26) OR
SHORTER (MS21920-24) CLAMPS TO ACCOMODATE VARYING DIAMETERS. ENSURE THERE IS A
MINIMUM OF 1.5 THREADS IN SAFETY ON THE NUTS.**
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 58433

PH 5-20

DEO ATTACHED

RELEASED
06-01-16

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-851 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-450 CUSHION; MS21920-25 WAS MS21920-24	MB	07.12.03
A	NEW ISSUE	DS	02.11.20
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>4</i>	DART AEROSPACE LTD	
DRAWN	<i>J</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>EE</i>	D205-596-105	SHEET 1 OF 2
APPROVED	<i>TH</i>	TITLE	SCALE
DE APPR.	<i>TH</i>	CROSSTUBE ASSEMBLY, HI-HI FWD	NTS
DATE	07.12.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

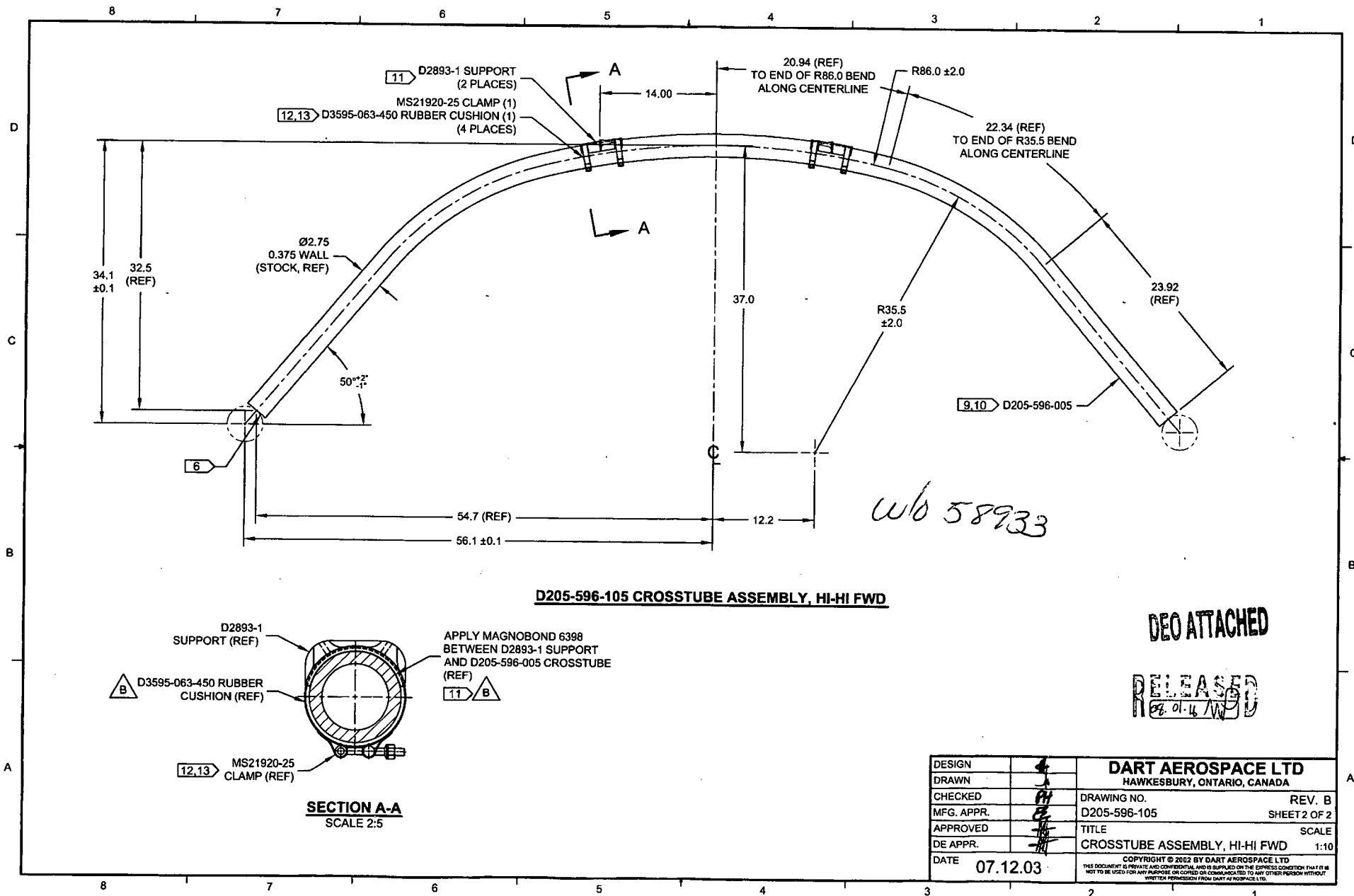
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DESIGN		DART AEROSPACE LTD
DRAWN		HAWKESBURY, ONTARIO, CANADA
CHECKED		DRAWING NO. REV. B
MFG. APPR.		D205-596-105 SHEET 2 OF 2
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE ASSEMBLY, HI-HI FWD 1:10
DATE	07.12.03	COPYRIGHT © 2003 BY DART AEROSPACE LTD
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DRAWING NO. D205-596-105	TITLE CROSSTUBE	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D205-596-105-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>UP</i>	CHECKED <i>PO</i>	MFG. APPR. <i>MM</i>	APPROVED <i>MD</i>		DE APPR. <i>MM</i>		
DATE 09.05.01	DATE 09.06.15	DATE 09/06/22	DATE 09/06/22		DATE 09.06.22		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D205-596-105B	CROSSTUBE ASSEMBLY (214 HI-HI FWD)

THE D205-596-105B CROSSTUBE HAS THE SAME PARTS LIST AS THE D205-596-105 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D205-596-105 CROSSTUBE.

RELEASED
09/06/22

w/b 58933

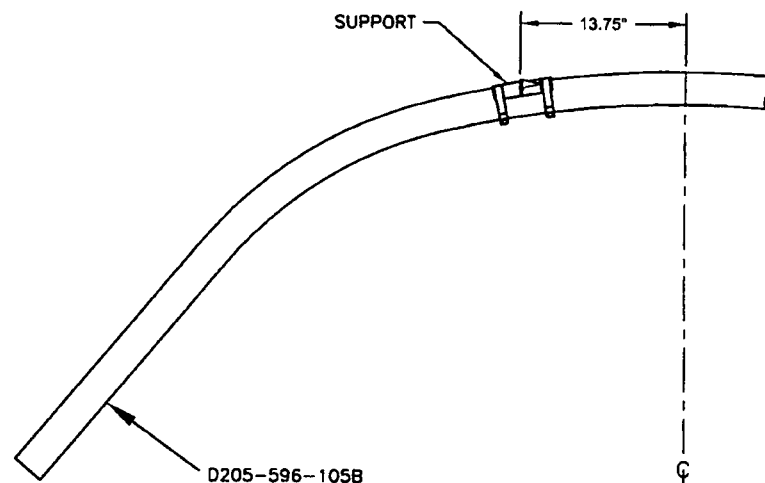


FIGURE 1 - SUPPORT INSTALLATION

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